(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



I SOLIS CINZON IL BIONO NOR DONI CONO SIN IN UN BONI DIGIN IN UN INDICATO CON INCIDIO DIN CONTRA INCIDIO INDIC

(43) International Publication Date 26 May 2005 (26.05.2005)

PCT

(10) International Publication Number WO 2005/047685 A1

(51) International Patent Classification⁷:

F02M 25/07

(21) International Application Number:

PCT/US2004/037730

(22) International Filing Date:

12 November 2004 (12.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/518,648

12 November 2003 (12.11.2003) US

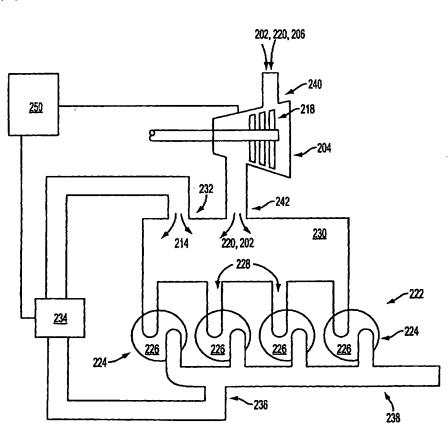
- (71) Applicant (for all designated States except US): MACK TRUCKS, INC. [US/US]; 2402 Lehigh Parkway South, Allentown, Pennsylvania 18105 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): GEYER, Stephen

M. [US/US]; 742 Woodland Parkway, Box 399, State Line, Pennsylvania 17263 (US). BIRKY, Gregory J. [US/US]; 19423 Maggie's Court, Boonsboro, Maryland 21713 (US).

- (74) Agents: REPPER, George, R. et al.; 1425 K Street, N.W., Suite 800, Washington, District of Columbia 20005 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: EGR RECOVERY SYSTEM AND METHOD



(57) Abstract: An EGR recovery method includes system and calculating a transient volume of EGR sufficient to maintain NOx emitted by an engine below a predetermined level during a period of transient operation of said engine, supplying an actual volume of EGR during said period of transient operation, measuring said actual level of EGR during said period of transient operation, calculating an EGR deficit between said transient volume of EGR and said actual volume of EGR during said period of transient operation, integrating said EGR deficit over said period of transient operation to calculate a deficit volume of EGR, calculating a following steady-state volume of EGR sufficient to maintain NOx emitted by said engine of said engine below said predetermined level during a following period of substantially steady-state operation of said engine, and supplying said following steady-state volume of EGR plus said deficit volume of EGR during said following period of substantially steady-state operation of said engine.

WO 2005/047685 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report

 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.